Intuition XG

Advanced HD/SD Graphics Processor

Installation & Quick Start Guide

M848-9005-490

Miranda

A BELDEN BRAND

www.miranda.com

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Warranty Policies

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Document Identification

Title	Intuition XG - Installation & Quick Start Guide
Part number	M848-9005-490
SW version	Vertigo Suite v.4.9

Revision History

After the original release date, this document may be updated with edits and then re-released. The following table tracks the versions of this document.

Revision date	Description
March 31, 2014	Original release

Safety Compliance

This equipment complies with the requirements of the following standards for Safety of Information Technology Equipment:

- CSA C22.2 no. 60950-1-07 (2nd Edition)
- UL 60950-1 (2nd Edition)
- IEC/EN 60950-1 (2nd Edition)

Warning: An appropriately listed/certified main supply power cord must be used for the connection of the equipment to the main voltage at either 120V~ or 240V~

CAUTION: These servicing instructions are for use by qualified service personnel only.

To reduce the risk of electric shock, do not perform any servicing than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel. Servicing should be done in a static-free environment.

Electromagnetic Compatibility

This equipment has been tested for verification of compliance with **FCC Part 15, Subpart B requirements for Class A digital devices.**

☑ NOTE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment has been tested and complies with the requirements of the directive 2004/108/CE :

- EN 55022 Class A Radiated emissions
- EN 55022 Class A Conducted emissions
- EN 61000 -3-2 Harmonic current emission limits
- EN 61000 -3-3 Voltage fluctuation and flicker limitations
- EN 61000 -4-2 Electrostatic discharge immunity
- EN 61000 -4-3 Radiated EMF immunity-RF
- EN 61000 -4-4 Electrical fast transient immunity
- EN 61000 -4-5 Surge immunity
- EN 61000 -4-8 Power frequency magnetic field
- EN 61000 -4-11 Voltage dips, short interruption and voltage variation immunity

WARNING

Intuition XG devices contain Class 1 lasers, which are deemed safe under normal operating conditions.

Standalone Equipment - Laser source(s) employed:
CLASS 1 LASER PRODUCT
APPAREIL A LASER DE CLASSE 1

WARNING

Intuition XG devices contain a Lithium battery in the service access area, which should be replaced by the same type of battery.

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1 INTRODUCTION

This guide provides basic Intuition XG product information and an orientation of the hardware components for all three (3) models of the Intuition XG (XG-e, XG-3U-e and XG-Dual-e). This guides also provides instructions for performing a first-time installation of the Intuition XG devices, as well as initial setup tasks to get the devices up and running.

New Intuition XG devices are factory configured for standard rendering and playout workflows. Configuring the Intuition XG settings for advanced workflows is normally performed by qualified network administrators or Miranda's Integration Specialists using the Intuition XG Portal and Dashboard software interfaces. Information and instructions for implementing advanced configurations is beyond the scope of this document, but are covered in the **Intuition XG Configuration Guide**. Please visit the Miranda Support Portal (http://www.miranda.com/support/index) for the latest documentation updates.

Intuition XG product description

The Intuition XG graphics co-processor significantly extends the graphics and clip playout capabilities of master control switcher systems, like the Imagestore 750 or NV51000MC, by feeding the HD/SD fill/key inputs. It's ideal for playout of the most advanced data-driven, channel branding and promotional graphics, including: "Coming up next" and episodic promos. The Intuition XG provides multi-level character generation plus animation/still and clip playout with multi-channel audio.

The Intuition XG is available in three (3) standard models:

Intuition-XG-e	A single channel graphics co-processor, generally used upstream of a master control switcher like the Imagestore 750 or NV5100MC. • 1RU chassis with a single power supply unit. • 1 HD/SD video input, 1 HD/SD (Fill & Key) output • A powerful, HD/SD character generator which allows the playout of virtually unlimited layers of animated text and dynamically updated text. • 1 TB RAID1 storage for up to 200 hours of video/audio clips and simultaneous playout of multiple clips • Playout of up to eight (8) layers of animated and still graphics templates for the most advanced branding and promotional effects. • SD output as NTSC or PAL • HD output as 1080i, 720p or 480p • VANC + VBI extraction processing and insertion or VAnc/VBI pass through. • Full automation control by serial, Ethernet and/or GPI commands. **Options** • VX-ClipPlayer • VX-Audio-e

Intuition-XG-3U-e	A single channel graphics co-processor, generally used upstream of a master control switcher like the Imagestore 750 or NV5100MC. • 3RU chassis with redundant power supply unit. • 1 HD/SD video input, 1 HD/SD (Fill & Key) output • A powerful, HD/SD character generator which allows the playout of virtually unlimited layers of animated text and dynamically updated text. • 1 TB RAID1 storage for up to 400 hours of video/audio clips and simultaneous playout of multiple clips • Playout of up to eight (8) layers of animated and still graphics templates for the most advanced branding and promotional effects. • SD output as NTSC or PAL • HD output as 1080i, 720p or 480p • VANC + VBI extraction processing and insertion or VAnc/VBI pass through. • 16 embedded audio channels • Discrete AES audio channels - up to 8 in and 16 out • Full automation control by serial, Ethernet and/or GPI commands. **Options** • VX-ClipPlayer • VX-Audio-e • VX-EAS • VX-GPI-8-eVX-RS422-2-e • VX-TC-e • VX-2TB-UPG

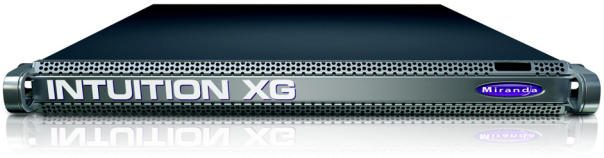
Intuition-XG-Dual-e	A dual channel graphics co-processor, generally used upstream of a master control switcher like the Imagestore 750 or NV5100MC. • 3RU chassis with redundant power supply unit. • 2 HD/SD video input, 2 HD/SD (Fill & Key) output • A powerful, HD/SD character generator which allows the playout of virtually unlimited layers of animated text and dynamically updated text. • 1 TB RAID1 storage for up to 400 hours of video/audio clips and simultaneous playout of multiple clips • Playout of up to eight (8) layers of animated and still graphics templates for the most advanced branding and promotional effects. • SD output as NTSC or PAL • HD output as 1080i, 720p or 480p • VANC + VBI extraction processing and insertion or VAnc/VBI pass through. • 16 embedded audio channels per SDI stream • Discrete AES audio channels - up to 8 in and 2 x 16 out • Full automation control by serial, Ethernet and/or GPI commands. **Options** • VX-ClipPlayer • VX-Audio-e • VX-EAS • VX-GPI-8-eVX-RS422-2-e • VX-TC-e • VX-2TB-UPG

The following options are available on Intuition XG devices:

VX-ClipPlayer	**Clip Player** The Clip Player is an internal codec package for playing out multi-format video clips.
VX-Audio-e	**Audio Processing** The discrete audio I/O card allows the Intuition XG to capture, process and output discrete audio. The number of discrete audio I/O channels depends on the model of Intuition XG: • **Intuition-XG-e =>** None • **Intuition-XG-3Ue and Intuition-XG-Dual-e =>** 8 in / 16 out
VX-GPI-8-e	**GPI card** The GPI card allows for control of the Intuition XG via GPI triggers. The card allows for up to 8 GPI in and 8 GPI out.
VX-EAS	**EAS Text Integration (EAS Plugin and EAS Software Panel)** High quality EAS text and audio can be played out with the Intuition XG processor, using templates which integrate channel branding graphics for a consistent on-air presentation. **Only available for the Intuition-XG-3U-e and Intuition-Dual-e models.**
VX-RS422-2-e	**2 port RS-422 card** The RS-422 card provides an interface upon which the Intuition XG can communicate with automation systems. **Only available for the Intuition-XG-3U-e and Intuition-Dual-e models.**
VX-TC-e	**Time Code card** The Time Code card allows you to lock the Intuition XG's system clock to an external timecode. **Only available for the Intuition-XG-3U-e and Intuition-Dual-e models.**
VX-2TB-UPG	**1 TB RAID-10 Expansion option (2 x 1TB)** Increases the usable storage from 1TB to 2TB. **Only available for the Intuition-XG-3U-e and Intuition-Dual-e models.**

Overview of the Intuition XG-e chassis

The Intuition XG-e is a single HD/SD channel playout server (1 HD/SD video input, 1 HD-SDI Fill + Key output) that incorporates the Intuition XG graphics engine to rendering advanced graphics. Physically, the Intuition XG is a 1RU rackmount playout server with a single power supply unit and 1 TB of storage.



The following table summarizes the Intuition XG-e's physical dimensions and power consumption:

Chassis	**FORM**: 1U rackmount chassis **HEIGHT**: 1.7" (43 mm) **WIDTH**: 17.2" (437 mm) **DEPTH**: 28.2" (716 mm)
Power consumption	**1 x 1400W power supply** **AC input**: 180 - 240V, 50 - 60 Hz, 7.2 - 9.5 Amp

The following sections provide more information about Intuition XG-e hardware components:

- "Front panel components (Intuition XG-e)" on page 1-7
- "Rear panel components (Intuition XG-e)" on page 1-7

Front panel components (Intuition XG-e)

The Intuition XG's front panel provides convenient access to the SATA hard drives, two USB ports, a CD/DVD ROM drive, two fans, and a control panel containing five LEDs and two buttons for system monitoring and operation. Figure 1-1 identifies the LEDs, buttons and connectors on the front panel of the Intuition XG-e.

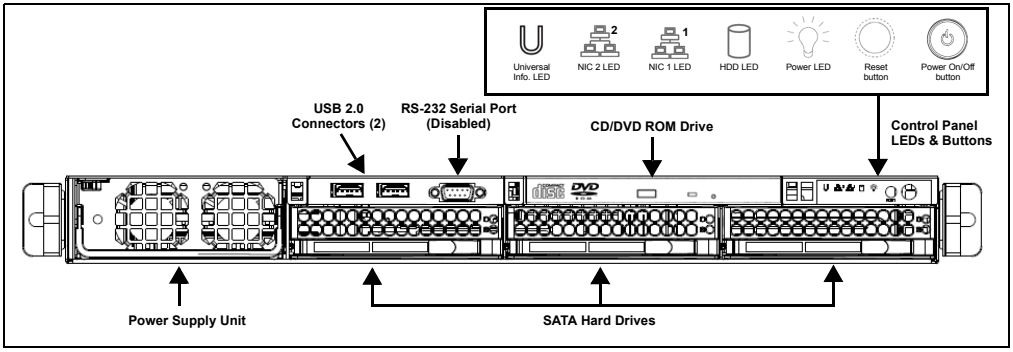


Figure 1-1. Front panel components of the Intuition XG-e

☑ NOTE

See the **Intuition XG Configuration Guide** for descriptions of each of the LEDs and buttons on the front panel of the Intuition XG-e.

Rear panel components (Intuition XG-e)

The Intuition XG's rear panel provides convenient access to the video card's I/O connector, which provides 1 SD/HD SDI video input, 1 SD/HD SDI video output (Fill & Key), and a reference signal input. The rear panel also provides access to the graphics card connector, as well as various I/O ports (RS-232, USB, Ethernet...etc.). Figure 1-4 identifies each connector on the rear panel of the Intuition XG chassis.

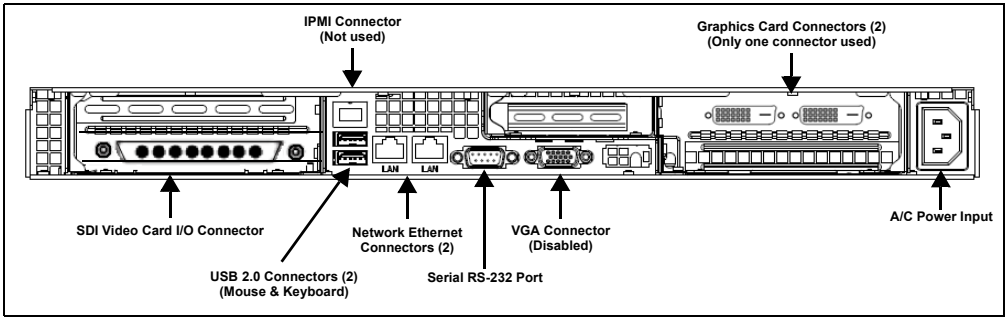


Figure 1-2. The rear panel components of the Intuition XG-e

Overview of the Intuition XG-3U/Dual chassis

The Intuition XG unit is a 3RU rackmount rendering platform that incorporates redundant fans, three power supplies, and 1 TB RAID1-enabled storage (optional 2 TB RAID10 expansion).

The only visible difference between the 3RU models of the Intuition XG is that the single channel model (**XG-3U-e**) has only one (1) discrete AES audio connector, while the dual channel model (**XG-Dual-e**) has two (2) discrete AES audio connectors.

In some cases, the positioning of the connectors on the Intuition XG's rear panel differs depending upon the hardware options installed. See page 1-6 for a list of the Intuition XG's hardware options.

The following table summarizes the Intuition XG's physical dimensions and power consumption:

Chassis	**FORM**: 3U rackmount chassis **HEIGHT**: 5.2" (132 mm) **WIDTH**: 17.7" (450 mm) **DEPTH**: 25.5" (648 mm)
Power consumption	**AC input**: 100 - 240V, 50 - 60 Hz **Consumption**: 4.05 - 1.73A **Power**: 410 max.
Temperature	**Ambient temperature**: 35°C Note: This shall be the maximum internal temperature within the rack in which the Vertigo XG unit is installed.

Consult the following sections to familiarize yourself with the Intuition XG's front and rear panel components:

- "Front panel components (Intuition XG-3U/Dual)" on page 1-9
- "Rear panel components (Intuition XG-3U/Dual)" on page 1-10

Front panel components (Intuition XG-3U/Dual)

The Intuition XG's front panel provides convenient access to the hard drives, a CD/DVD ROM drive, and a control panel containing six LEDs and three buttons for system monitoring and operation. Figure 1-3 identifies each component on the Intuition XG's front panel.

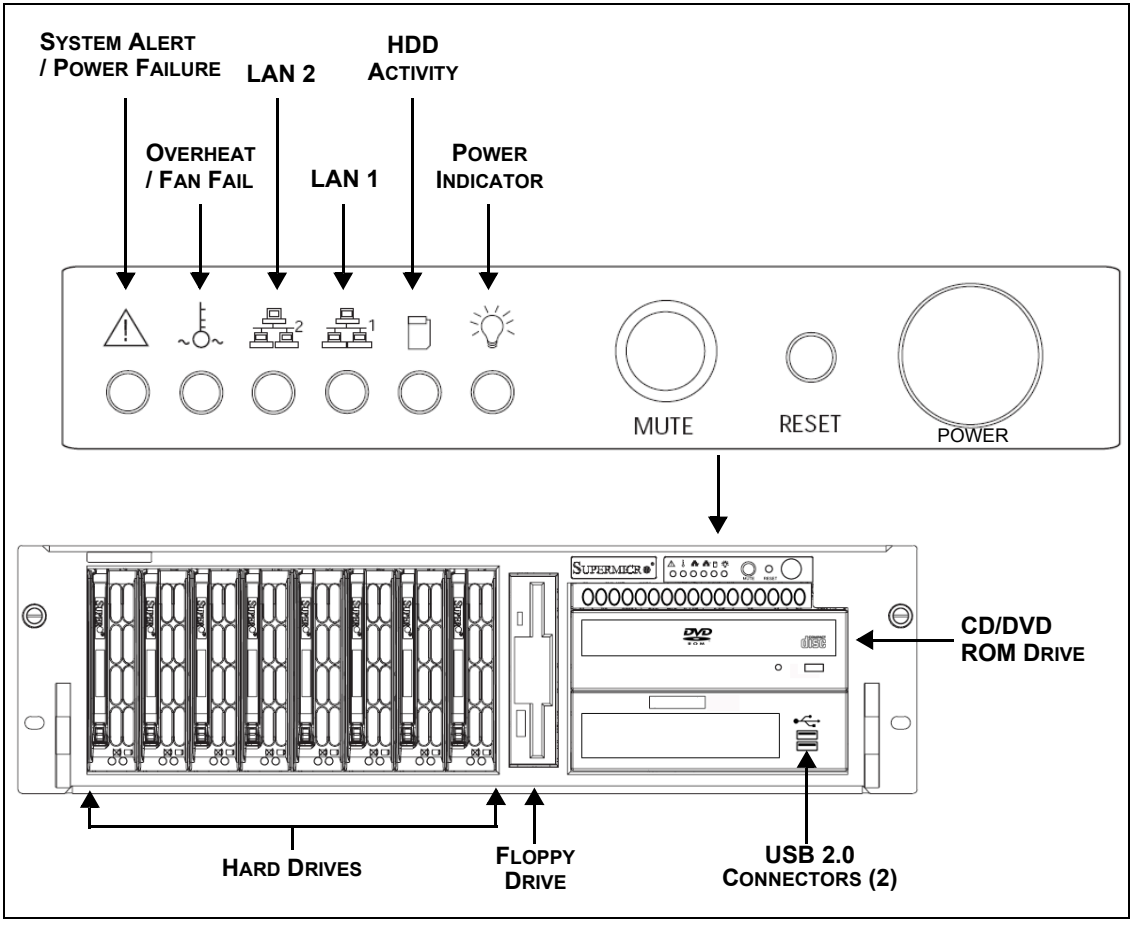


Figure 1-3. The Intuition XG's front panel components

☑ NOTE

See the **Intuition XG Configuration Guide** for descriptions of each of the LEDs and buttons on the Intuition XG's front panel.

Rear panel components (Intuition XG-3U/Dual)

The Intuition XG's rear panel provides convenient access to the video card's I/O connector, which provides 4 SD/HD SDI video outputs, a reference signal input, and AES audio input/output. The rear panel also provides access to the graphics card connector, as well as various I/O ports (RS-422, USB, Ethernet...etc.).

Figure 1-4 identifies the components and connectors on the rear panel of the Intuition XG chassis.

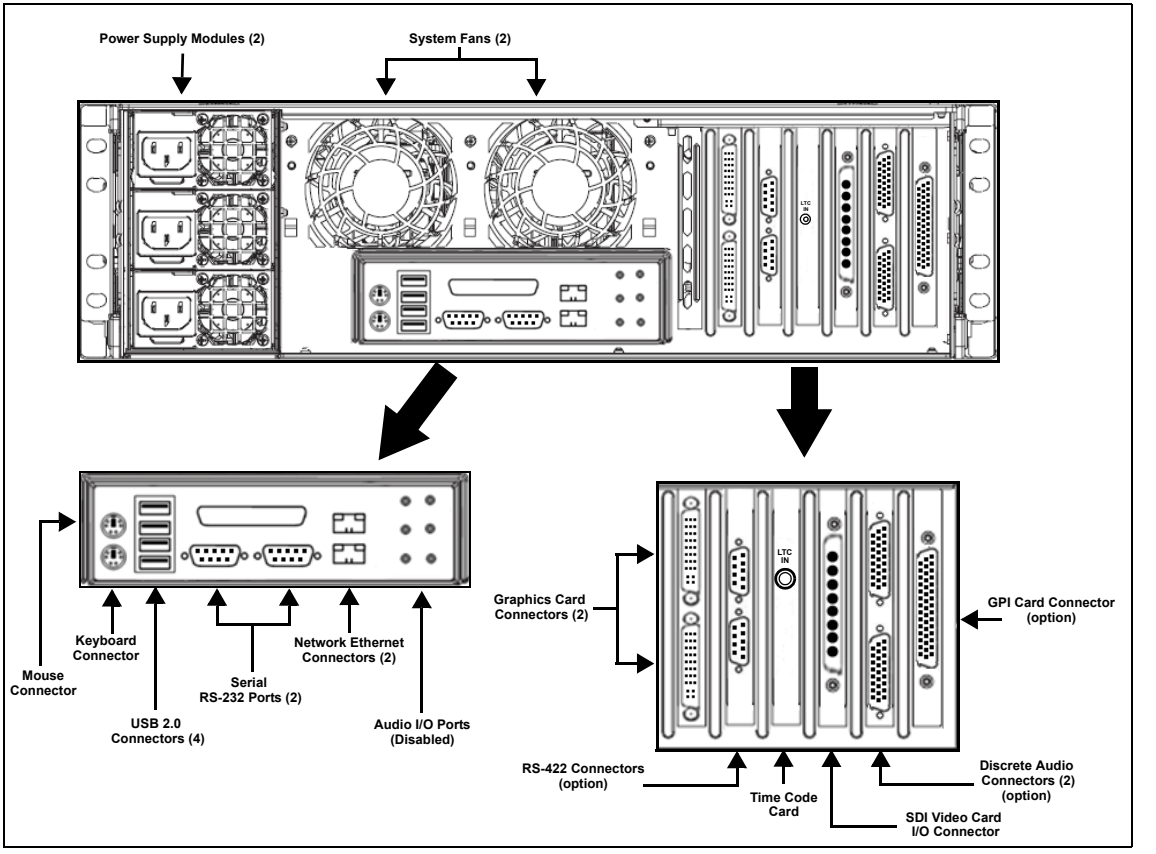


Figure 1-4. The Intuition XG's rear panel components (XG-3U-e & XG-Dual-e models)

☑ NOTE

In some cases, the positioning of the connectors on the Intuition XG's rear panel differs depending upon the hardware options installed. See page 1-6 for a list of the Intuition XG's hardware options.

2 INSTALLATION INSTRUCTIONS FOR THE INTUITION XG-E

This chapter identifies and describes the tasks for performing a first-time installation of a factory-configured Intuition XG-e device.

CAUTION

Intuition XG devices should only be installed by trained personnel in a restricted access locations only. All health and safety regulations and precautions must be observed.

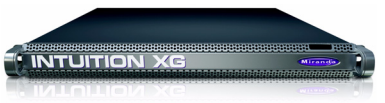
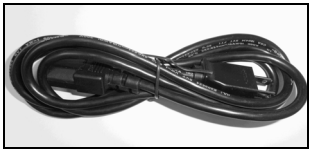
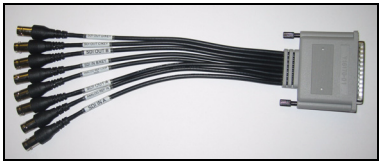
Step #	Task description
1	**Unpack the parts included in the shipping package (page 2-2)** • Verify the completeness and condition of all of the items included in the shipping package • Familiarize yourself with each of the items related to the Intuition XG-e
2	**Install the Intuition XG-e chassis in a rack (page 2-5)** • Remove the faceplate from the Intuition XG-e unit • Install the rails on the side of the Intuition XG-e unit and in the rack slot • Mount the Intuition XG-e unit in the rack and re-attach the faceplate
3	**Cabling the Intuition XG-e unit (page 2-8)** • Connect the SDI video I/O cable • Connect the keyboard and mouse • Connect the ethernet network cables • Connect the DVI monitor • Connect the automation system cable to the RS-232 • Connect the power supply cable

Unpacking and verifying the Intuition XG-e shipped items

The Intuition XG-e device is packaged and shipped with the items listed in the table below. As you unpack the contents of the shipment, please verify the completeness and condition of the contents of the shipment. We also recommend that before attempting to install the unit, you use the table below to familiarize yourself with each of the items related to the Intuition XG-e.

☑ NOTE

If any damage occurred during transportation or if any items are missing from the package, please contact Miranda's Customer Service and Sales department.

	**1 x 1RU Intuition XG-e chassis** The Intuition XG-e single channel graphics engine provides 1 input and 1 output (fill & key).
	Rack mounting kit • 2 x chassis rail assemblies (inner & outer rails) • Rail screws & washer kit
	**AC power cable** One power cable is provided, which connects to the single 1400W power supply on the rear of the Intuition XG-e chassis.
	**Video breakout cable** The breakout cable is used to connect the Video Card I/O connector to the SDI input, reference input, reference output, and SDI outputs. See page 2-8 for cabling instructions.
	Keyboard and Mouse A keyboard and mouse are required during the Intuition XG's initial setup, which involves using the Intuition XG's desktop applications, including Dashboard. Both the keyboard and mouse provided can be connected to the USB 2.0 connectors on the front or rear panels of the Intuition XG-e device.

VGA/DVI monitor adapter

A computer monitor is required during the Intuition XG's initial setup, which involves using the Intuition XG's desktop applications, including Dashboard.

The Intuition XG's graphics card connectors allow you to connect to a DVI monitor. If you prefer, you can use the VGA/DVI adapter to connect the Intuition XG device to VGA monitor.

Note that although there are two (2) DVI connectors, the Intuition XG can display to only one monitor. Therefore, it does not matter which of the two connectors the monitor's cable is connected to.

System Recovery DVD package

2 x System Recovery DVDs

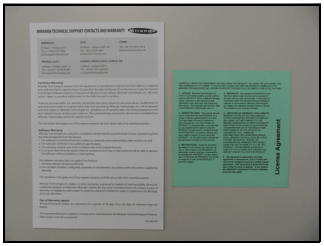
These DVDs can be used to restore the Intuition XG unit to its original factory default configuration. Note that one of the DVDs has a sticker with the Intuition XG's serial number, which identifies that particular Intuition XG unit.

Store these the System Recovery DVDs in a safe location. Do not misplace.

Vertigo Suite DVD package

- The **Demo content** DVD contains various sample content, system templates, and EAS templates, which can be imported into the Intuition XG's database.
- The **Software & User Documentation** DVD contains a complete installation of the Vertigo Suite software and the user documentation. A sticker on the DVD identifies the release version of the Vertigo Suite software.

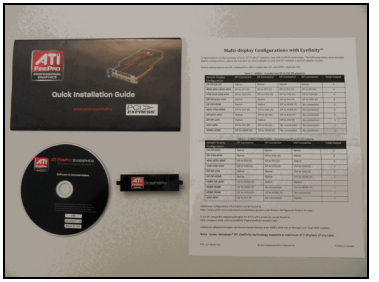
  Please consult http://support.miranda.com for the latest software and documentation updates.



- **Miranda Technical Support Contacts and Warranty card**

  This card contains warranty information related to the Intuition XG hardware and software. It also identifies Miranda's contact information, which is also provided on page 5-1.
- **License Agreement card (Miranda Technologies Inc.)**

  This card describes the terms of Miranda's license agreement for the Intuition XG and Vertigo Suite software.

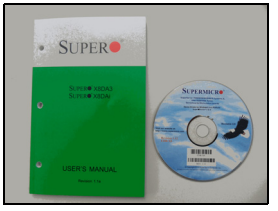


ATI FirePro kit

The ATI FirePro kit items are **not required** during the installation of a factory configured Intuition XG.

The Intuition XG uses the ATI FirePro graphics card. As such, the following ATI FirePro's installation items are also included in the Intuition XG shipping package:

- Quick Installation Guide
- Installation Driver CD
- Multi-display Configurations with Eyefinity sheet
- ATI CrossFire Pro flex connector



SuperMicro User's Manual and Bootable CD

These SuperMicro items are **not required** during the installation of a factory configured Intuition XG.

The Intuition XG uses SuperMicro's motherboard. As such, the documentation and bootable CD (drivers & utilities) have been included in the Intuition XG shipping package.

Windows Embedded Runtime Product Key

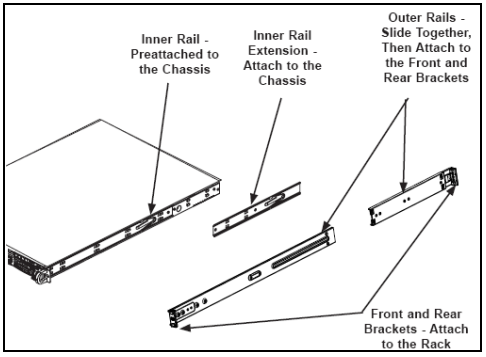
This flyer provides information regarding the Microsoft Runtime Key that applies to the Windows Embedded Standard software that is installed on the Intuition XG unit.

Store this flyer in a safe location as to not misplace it.

Mounting the Intuition XG-e chassis in a rack

Included in the shipping package is a Rack mounting kit, which contains the rails, screws and washers required to mount the Intuition XG-e (1RU) chassis into an equipment rack. Note that the rails are designed to fit in racks with a depth of 28” to 33”.

The two quick-release rail assemblies each consists of two primary sections: an inner fixed chassis rail and inner rail extension that secure directly to the chassis, and an outer rail assembly that secures directly to the rack itself.


Inner Rail - Preattached to the Chassis
Inner Rail Extension - Attach to the Chassis
Outer Rails - Slide Together, Then Attach to the Front and Rear Brackets
Front and Rear Brackets - Attach to the Rack

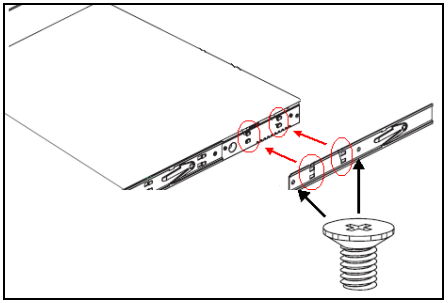
CAUTION

Intuition XG devices are intended to be installed in a restricted access location by qualified personnel. All health and safety regulations and precautions must be observed.

The following procedure provide step-by-step instructions for installing the rails and mounting the Intuition XG-e chassis into an equipment rack.

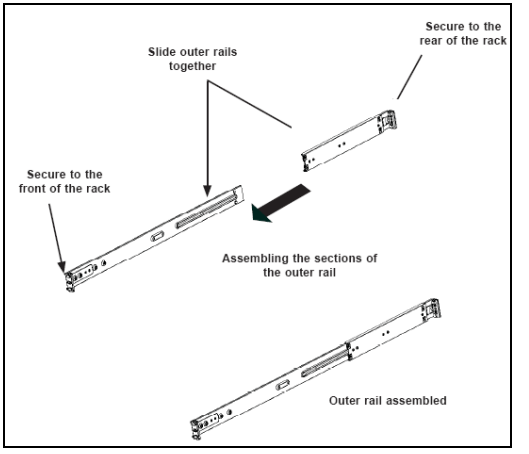
To install the Intuition XG-e chassis:

1. Remove the Intuition XG faceplate by pulling the faceplate’s handles away from the chassis.
2. Place the inner rail extensions over the pre-attached inner rails which are attached to the side of the chassis. Align the hooks of the inner rail with the rail extension holes. Make sure the extension faces "outward" just like the inner rail.
3. Slide the extension toward the front of the chassis.
4. Secure the chassis with screws.

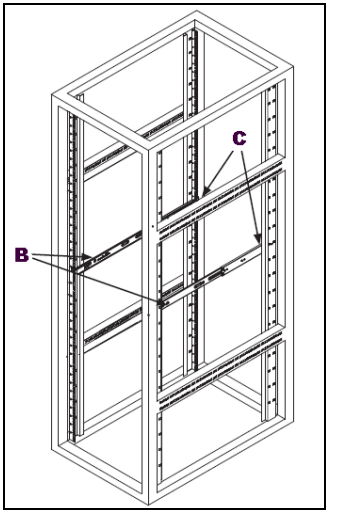


5. Repeat steps 2 to 4 for the other inner rail extension.

6. Each outer rail is in two sections that must be assembled before mounting onto the rack.
   a. Identify the left and right outer rails by examining the ends which bend outward.
   b. Slide the front section of the outer rail into the rear section of the outer rail.


Secure to the rear of the rack
Slide outer rails together
Secure to the front of the rack
Assembling the sections of the outer rail
Outer rail assembled

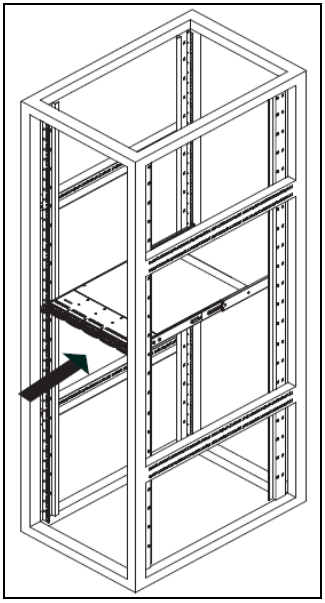
7. Install the outer rails onto the rack.
   a. Adjust the outer rails to the proper length so that the outer rail fits snugly within the rack.
   b. Align the holes on the front of the outer rail, with the holes on the front of the rack and secure with the screws provided.
   c. Align the holes on the rear of the outer rail to the holes on the rack and secure with the screws provided.
   d. Repeat the procedure with the second outer rail assembly.



CAUTION

Due to the heavy weight of the Intuition XG device, ensure that the rack is securely anchored onto a unmovable surface or structure before installing the chassis into the rack.

8. Install the chassis into a rack.
   a. Confirm that chassis includes the inner rails and rail extensions. Also, confirm that the outer rails are installed on the rack.
   b. Line chassis rails with the front of the rack rails.
   c. Slide the chassis rails into the rack rails, keeping the pressure even on both sides (you may have to depress the locking tabs when inserting). When the server has been pushed completely into the rack, you should hear the locking tabs "click".
   d. (Optional) Insert and tightening the thumbscrews that hold the front of the server to the rack.



Cabling the Intuition XG-e unit

Once the Intuition XG-e chassis is securely mounted in an equipment rack, you can connect the required cables to the rear connectors. Figure 2-1 and the cabling procedure provide step-by-step instructions for properly cabling the Intuition XG-e unit.

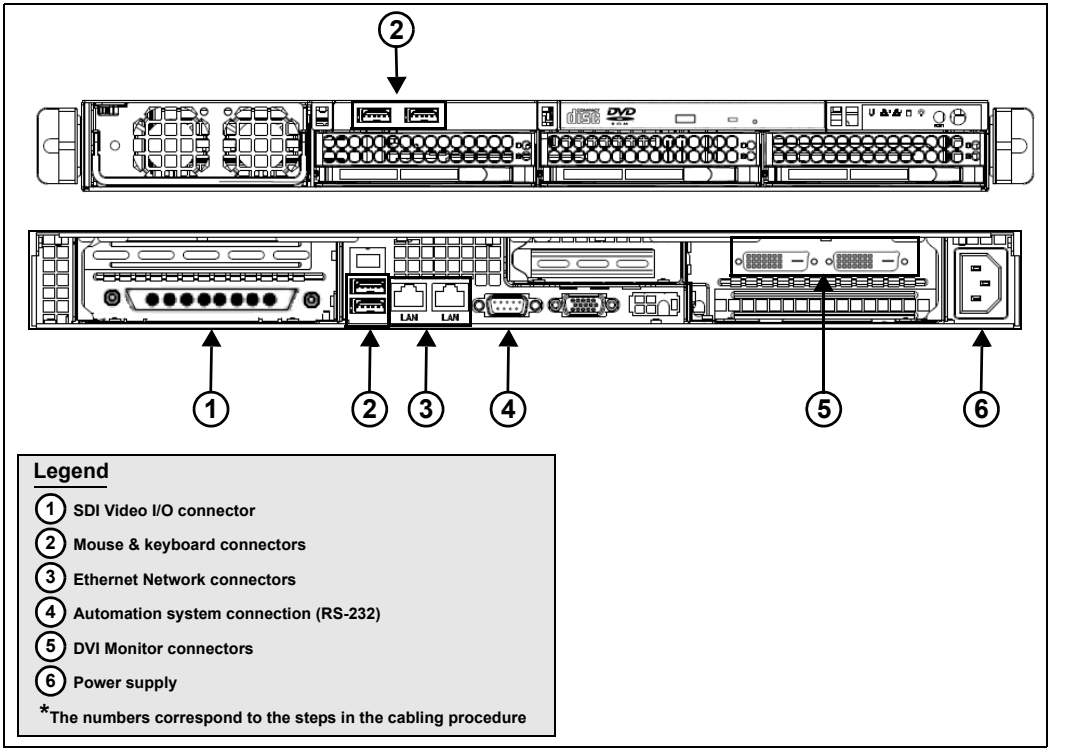


Figure 2-1. Cabling the Intuition XG-e

To cable the Intuition XG-e:

1. **Connect the Video breakout cable to the Intuition XG's SDI Video card I/O connector.**

SDI IN A	Primary SDI program input connection for the Intuition XG-e unit.
SDI IN B	Not used on an Intuition XG-e unit.
SDI OUT A (FILL 1)	Primary output channel connection for the Intuition XG-e unit. For the purposes of this setup procedure, connect this cable to a broadcast monitor.
SDI OUT B	Not used on an Intuition XG-e unit.
SDI OUT C / KEY	The matching key signal for SDI OUT A.

SDI OUT D /KEY	Not used on an Intuition XG-e unit.
ANALOG REF IN	Connect to a house reference (Analog Blackburst or HD Tri-Level) to synchronize the phase timing video and graphics processing.
ANALOG REF LOOP OUT	Optional connection. Use to feed the reference signal from ANALOG REF IN to another piece of equipment.

2. **Connect the Keyboard and Mouse to the USB connectors on the front or rear panel of the Intuition XG-e.**

3. **Connect the Intuition XG device to the Local Area Network (LAN) by connecting ethernet cables to the two (2) Network Ethernet connectors.**

   The Intuition XG's two network ethernet adapters are teamed together (connect 2 cables to the 2 NIC cards at the same time) to form a third virtual adapter. In the event of an adapter, cable or switch failure, the network interface fails over to the healthy adapter. See the **Intuition XG Configuration Guide** for more details.

   If you only have one cable connected, then the teaming is still in effect, but all traffic will be over that one cable. If that NIC fail, you will have to manually move the cable to the other NIC.

4. **Connect the automation system cables to the Intuition XG's RS-232 connector.**

   The RS-232 connector provides a control port upon which the automation system's serial cable can be connected. It is through this connection that the automation system communicates and controls the Intuition XG using automation protocol commands.

5. **Connect a computer monitor to one of the two (2) DVI connectors on the rear panel of the Intuition XG.** If you prefer, you can use the VGA/DVI monitor adapter to connect the Intuition XG device to VGA monitor.

☑ NOTE

Although there are two (2) DVI connectors, the Intuition XG can display to only one monitor. Therefore, it does matter which of the two connectors the monitor's cable is connected to.

6. **Connect the AC power cable to the power supply socket on the rear panel of the Intuition XG-e chassis.**

⚠ WARNING

DO NOT plug the power cable into AC power socket yet.

3 INSTALLATION INSTRUCTIONS FOR THE INTUITION XG-3U/DUAL

This chapter provides you with instructions for performing a first-time installation of a factory-configured Intuition XG-3U-e or Intuition XG-Dual-e devices.

CAUTION

Intuition XG devices should only be installed by trained personnel in a restricted access locations only. All health and safety regulations and precautions must be observed.

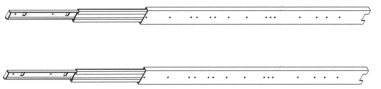
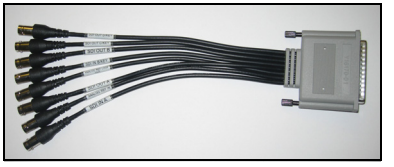
Step #	Task description
1	**Unpack the parts included in the shipping package (page 3-2)** • Verify the completeness and condition of all of the items included in the shipping package • Familiarize yourself with each of the items related to the Intuition XG
2	**Install the Intuition XG chassis in a rack (page 3-6)** • Remove the faceplate from the Intuition XG unit • Install the rails on the side of the Intuition XG unit and in the rack slot • Mount the Intuition XG unit in the rack and re-attach the faceplate
3	**Cabling the Intuition XG unit (page 3-10)** • Connect the power supply cables • Connect the keyboard and mouse • Connect the DVI monitor • Connect the ethernet network cable(s) • Connect the SDI video I/O cable • Connect the discrete AES audio cable(s) • Connect the automation system cable to the RS-232 / RS-422 ports • Connect cable to time code card • Connect cable to GPI card

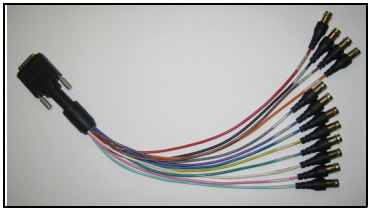
Unpacking and verifying the Intuition XG-3U/Dual's shipped items

The Intuition XG device is packaged and shipped with the items listed in the table below. As you unpack the contents of the shipment, please verify the completeness and condition of the contents of your received shipment. We also recommend that before attempting to install the unit, you use the table below to familiarize yourself with each of the items related to the Intuition XG.

☑ NOTE

If any damage occurred during transportation or if any items are missing from the package, please contact Miranda's Customer Service and Sales department.

	1 x 3RU Intuition XG chassis • **VX-Intuition-XG-3U-e** A single channel graphics engine, which provides 1 input and 1 output (fill & key). • **VX-Intuition-XG-Dual-e** A dual channel graphics engine, which provides 2 input and 2 output (fill & key).
	**Rack mounting kit** • 2 x chassis rail assemblies • Rail screws
	AC power cables Three (3) power cables are provided, which connect to the Intuition XG's power supplies.
	**Video breakout cable** The breakout cable is used to connect the Video Card I/O connector to the SDI inputs, reference input, reference output, and SDI outputs. See page 3-11 for cabling instructions.



Discrete (AES) audio breakout cable

Single channel Intuition XG units (**XG-3U-e**) have one discrete (AES) audio connector, while dual channel Intuition XG units (**XG-Dual-e**) have two discrete (AES) audio connectors.

For each physical SDI video output, there will be a discrete audio breakout cable. Each discrete audio breakout cable contains 4 BNC inputs and 8 BNC outputs. Each BNC connector represents 1 stereo pair (2 channels) of digital AES/EBU audio. Therefore, each discrete audio breakout cable contains 4 stereo pairs (8 channels) of input and 8 stereo pairs (16 channels) of output.

VGA/DVI monitor adapter

A computer monitor is required during the Intuition XG's initial setup, which involves using the Intuition XG's desktop applications, including Dashboard.

The Intuition XG's graphics card connectors allow you to connect to a DVI monitor. If you prefer, you can use the VGA/DVI adapter to connect the Intuition XG device to VGA monitor.

Note that although there are two (2) DVI connectors, the Intuition XG can display to only one monitor. Therefore, it does not matter which of the two connectors the monitor's cable is connected to.

Keyboard and Mouse

A keyboard and mouse are required during the Intuition XG's initial setup, which involves using the Intuition XG's desktop applications, including Dashboard.

Both the keyboard and mouse provided can be connected to the USB 2.0 connectors on the front or rear panels of the Intuition XG device.

If you prefer to use a mouse and/or keyboard that has a PS/2 connection, there are two (2) PS/2 connectors available on the rear panel of the Intuition XG device.

Hard Disk Drive (HDD) screws

The HDD screws are **not required** during the initial installation of a factory configured Intuition XG.

The HDD screws are required to perform an on-site installation of the 1 TB RAID10 Expansion option (**VX-2TB-UPG**), which increases the Intuition XG's usable storage from 1TB to 2TB. Therefore, we recommend storing the HDD screws for future use.

System Recovery DVD package

2 x System Recovery DVDs

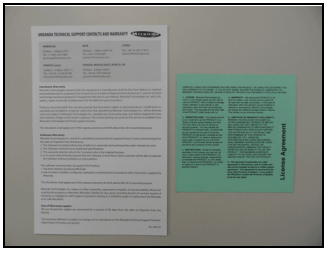
These DVDs can be used to restore the Intuition XG unit to its original factory default configuration. Note that one of the DVDs has a sticker with the Intuition XG's serial number, which identifies that particular Intuition XG unit.

Store these the System Recovery DVDs in a safe location. Do not misplace.

Vertigo Suite DVD package

- The **Demo content** DVD contains various sample content, system templates, and EAS templates, which can be imported into the Intuition XG's database.
- The **Software & User Documentation** DVD contains a complete installation of the Vertigo Suite software and the user documentation. A sticker on the DVD identifies the release version of the Vertigo Suite software.

  Please consult http://support.miranda.com for the latest software and documentation updates.



- **Miranda Technical Support Contacts and Warranty card**

  This card contains warranty information related to the Intuition XG hardware and software. It also identifies Miranda's contact information, which is also provided on page 5-1.
- **License Agreement card (Miranda Technologies Inc.)**

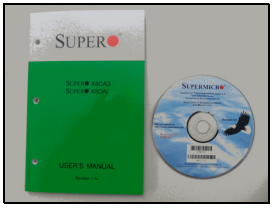
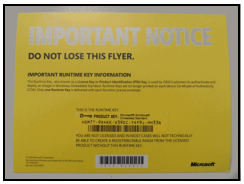
  This card describes the terms of Miranda's license agreement for the Intuition XG and Vertigo Suite software.

ATI FirePro kit

The ATI FirePro kit items are **not required** during the installation of a factory configured Intuition XG.

The Intuition XG uses the ATI FirePro graphics card. As such, the following ATI FirePro's installation items are also included in the Intuition XG shipping package:

- Quick Installation Guide
- Installation Driver CD
- Multi-display Configurations with Eyefinity sheet
- ATI CrossFire Pro flex connector

	**SuperMicro User's Manual and Bootable CD** These SuperMicro items are **not required** during the installation of a factory configured Intuition XG. The Intuition XG uses SuperMicro's motherboard. As such, the documentation and bootable CD (drivers & utilities) have been included in the Intuition XG shipping package.
	**Windows Embedded Runtime Product Key** This flyer provides information regarding the Microsoft Runtime Key that applies to the Windows Embedded Standard software that is installed on the Intuition XG unit. Store this flyer in a safe location as to not misplace it.

Mounting the Intuition XG-3U/Dual chassis in a rack

Included in the shipping package is a Rack mounting kit, which contains the rails, screws and washers required to mount the Intuition XG chassis into an equipment rack. Note that the rails are designed to fit in racks with a depth of 28” to 33”. Due to the heavy weigh of the unit, the rack in which the Intuition XG unit will be installed should be anchored to the building’s structure.

CAUTION

Intuition XG devices are intended to be installed in a restricted access location by qualified personnel. All health and safety regulations and precautions must be observed.

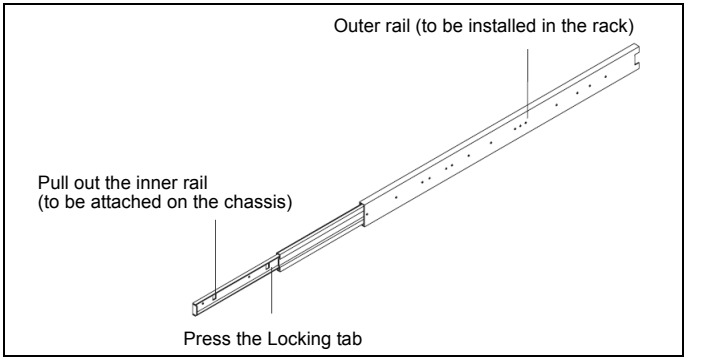
The following procedure provides step-by-step instructions for installing the rails and mounting the Intuition XG chassis into an equipment rack.

To install chassis rails:

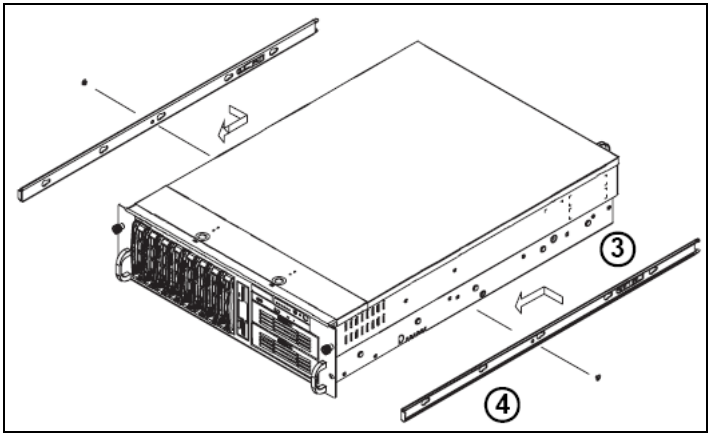
1. Remove the Intuition XG faceplate by pulling the faceplate’s handles away from the chassis.

2. Included in the shipping package are a pair of rail assemblies. In each rail assembly, locate the inner rail and outer rail.

   Press the locking tab to release the inner rail from its locking position and pull out the inner rail from the rail assembly. (The inner rails are to be attached to the chassis and the outer rails are to be installed in the rack).



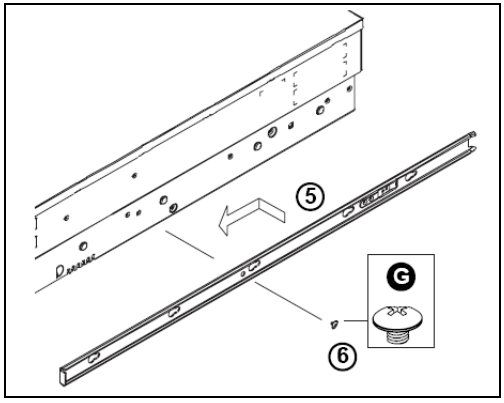
3. Locate the five rail buttons on each side of the chassis and locate the five corresponding holes on each of the inner rails.
(*Please note that one end of the hole is larger than the other end of the hole.)



4. Align the larger end of each hole against its corresponding button. Once all aligned, push the holes toward their corresponding buttons and the rail is placed on the chassis.

5. Once the rail is placed on the chassis, pull the rail forward until the rail buttons lock in the small ends of the corresponding holes.

6. Secure the rail to the chassis with a Type G screw. Repeat the above steps 2 to 6 to install the other rail on the other side of the chassis.



7. After you have installed the inner rails on the chassis, you are ready to install the outer rails of the rail assemblies to the rack.

   In the package, locate a pair of front (-short) and rear (-long) brackets. Please note that the brackets are marked with Up/Front arrows (-front) and Up/Rear arrows (-rear).

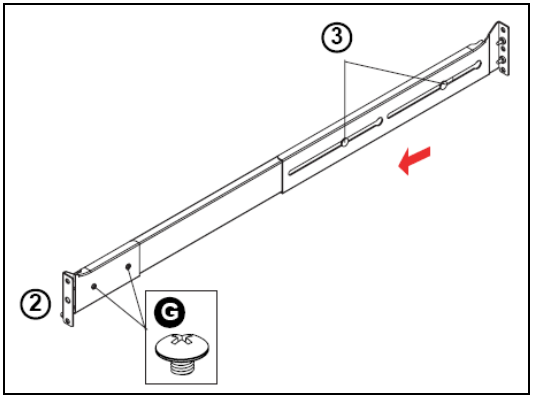
8. Secure the front (-short) bracket (marked with the Up/Front arrows) to the outer rail with two Type G screws.

9. Locate the two buttons on the outer rail and attach the rear (-long) bracket to it by sliding the opening of the rear rail through the button.

10. Measure the depth of your rack and adjust the length of the rails accordingly.

11. Repeat the same steps to install the outer rail on the chassis.

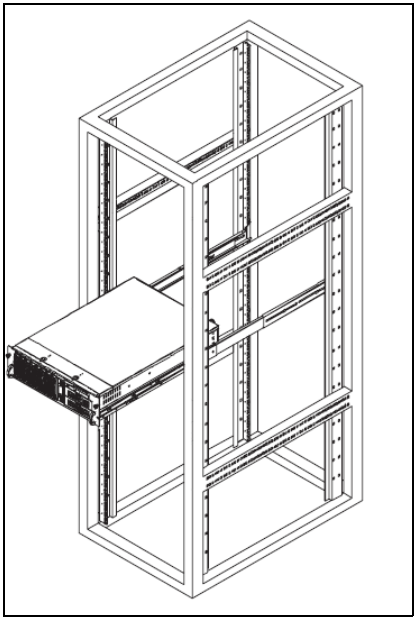
12. Secure both outer rail assemblies to the rack with Type H screws and Type I washers.



13. Slide the Intuition XG chassis into the rack as shown below.
    The chassis may not slide into the rack smoothly or easily when installed for the first time. Adjustments to the slide assemblies might be necessary to achieve a smooth insertion.

CAUTION

Due to the heavy weight of the Intuition XG device, ensure that the rack is securely anchored onto a unmovable surface or structure before installing the chassis into the rack.



CAUTION

Slide/rail mounted equipment is not to be used as a shelf or a workspace.

NOTE

To completely remove the chassis from the rack, you must release the safety tabs on both sides of the chassis.

14. Re-attach the faceplate by aligning and pushing the faceplate towards the Intuition XG chassis.

Cabling the Intuition XG-3U/Dual unit

Once the Intuition XG chassis is securely mounted in an equipment rack, you can connect the required cables to the rear connectors of the Intuition XG unit. Figure 3-1 and the cabling procedure provide step-by-step instructions for properly cabling the Intuition XG unit.

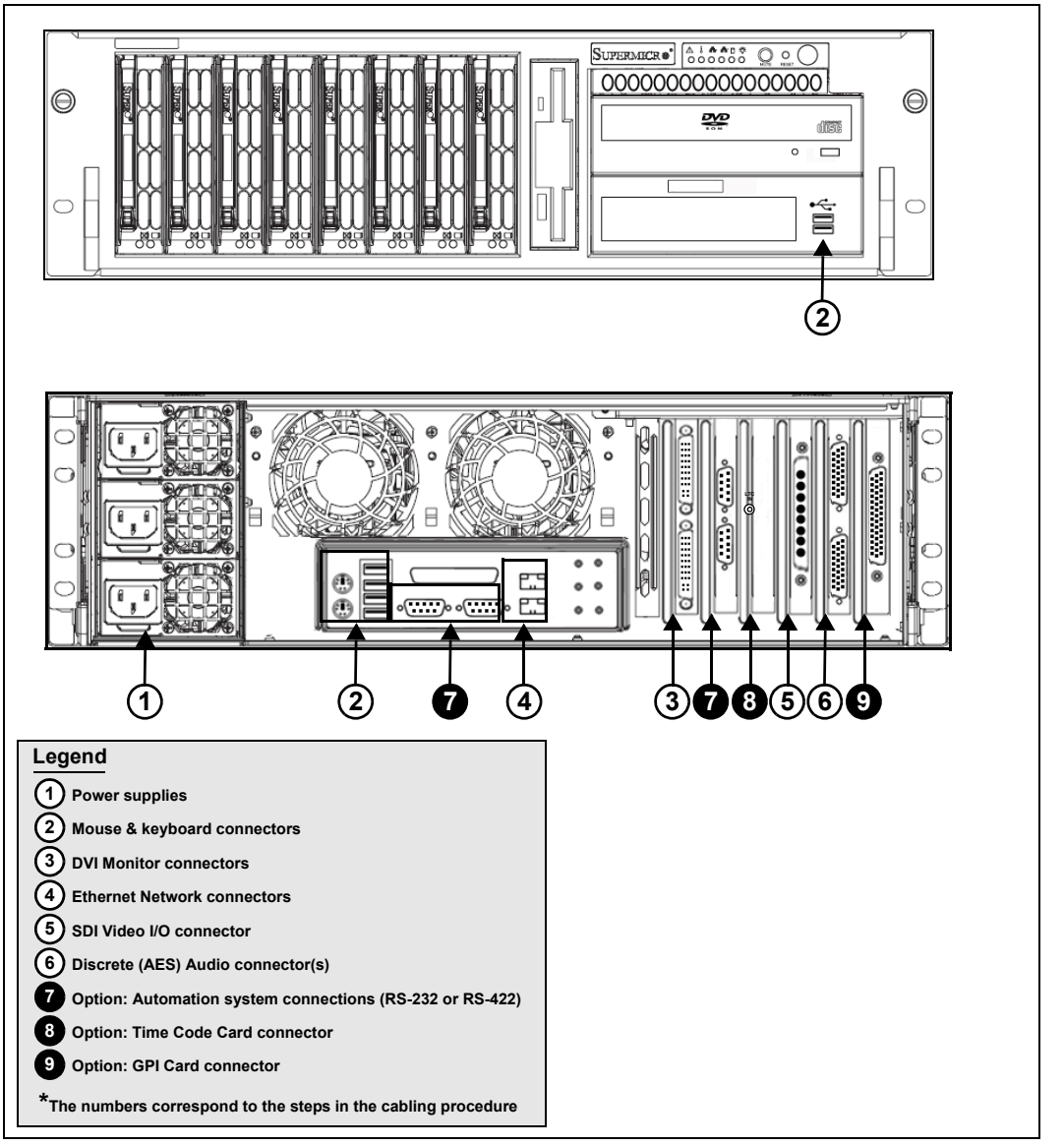


Figure 3-1. Cabling the Intuition XG

To cable the Intuition XG-3U-e or the Intuition XG-Dual-e:

1. **Connect the three (3) AC power cables to the power supply sockets on the rear panel of the Intuition XG chassis.**

WARNING

DO NOT plug the power cables into AC power sockets yet.

2. **Connect the Keyboard and Mouse to the USB connectors on the front or rear panel of the Intuition XG.** Two PS/2 connections are also available on the rear panel, should you prefer to use another type of keyboard and mouse.
3. **Connect to a monitor to one of the two (2) DVI connectors on the rear panel of the Intuition XG.** If you prefer, you can use the VGA/DVI monitor adapter to connect the Intuition XG device to VGA monitor.

NOTE

Although there are two (2) DVI connectors, the Intuition XG can display to only one monitor. Therefore, it does not matter which of the two connectors the monitor's cable is connected to.

4. **Connect the Intuition XG device to the Local Area Network (LAN) by connecting ethernet cables to the two (2) Network Ethernet connectors.**

   The Intuition XG's two network ethernet adapters are teamed together (connect 2 cables to the 2 NIC cards at the same time) to form a third virtual adapter. In the event of an adapter, cable or switch failure, the network interface fails over to the healthy adapter. See the **Intuition XG Configuration Guide** for more details.

   If you only have one cable connected, then the teaming is still in effect, but all traffic will be over that one cable. If that NIC fail, you will have to manually move the cable to the other NIC.
5. **Connect the Video breakout cable to the Intuition XG's SDI Video card I/O connector.**

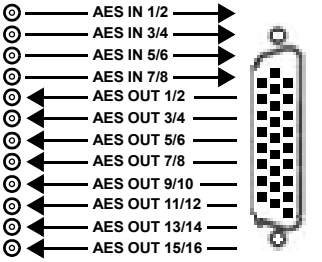
SDI IN A	Primary SDI program input connection for both single and dual channel Intuition XG units.
SDI IN B	On dual channel Intuition XG units (XG-Dual-e), the SDI IN B is the primary SDI program input connection for the second channel. On single channel Intuition XG units (XG-3U-e), the SDI IN B is not used.
SDI OUT A	Primary output channel connection for both single and dual channel Intuition XG units. For the purposes of this setup procedure, connect this cable to a broadcast monitor.

SDI OUT B	Second output channel connection for dual channel Intuition XG units (XG-Dual-e). For the purposes of this setup procedure, connect this cable to a broadcast monitor. Not used on single channel Intuition XG units (X-3U-e).
SDI OUT C /KEY	The matching key signal for SDI OUT A.
SDI OUT D /KEY	SDI Out B (Fill 2) is the second output channel on the Intuition XG-Dual-e model. No signal is present at this connection for single-channel models (XG-3U-e).
ANALOG REF IN	Connect to a house reference (Analog Blackburst or HD Tri-Level) to synchronize the phase timing video and graphics processing.
ANALOG REF LOOP OUT	Optional connection. Use to feed a reference signal to another piece of equipment.

6. **Connect the Discrete (AES) audio breakout cable to the Intuition XG's Discrete audio connector(s).**

   Single channel Intuition XG units (**XG-3U-e**) have one discrete (AES) audio connector and one breakout cable, while dual channel Intuition XG units (**XG-Dual-e**) have two discrete (AES) audio connectors and two breakout cables.

   Each discrete audio breakout cable contains 4 BNC inputs and 8 BNC outputs. Each BNC connector represents 1 stereo pair (2 channels) of digital AES/EBU audio. Therefore, each discrete audio breakout cable contains 4 stereo pairs (8 channels) of input and 8 stereo pairs (16 channels) of output.



7. **Optional: Connect the automation system cables to the Intuition XG's RS-232 or RS-422 connectors.**

   The two (2) RS-232 connectors are standard equipment on both models of the Intuition XG, but the RS-422 card is a hardware option (see page 1-5).

   The RS-232 and RS-422 connectors provide two control ports upon which the automation system's serial cables are connected. It is through this connection that the automation system communicates and controls the Intuition XG using automation protocol commands.

8. **Optional: Connect a Time Code Generator to the Time Code card's BNC connector on the rear panel of the Intuition XG.**

   The Time Code Card is a hardware option on the Intuition XG (see page 1-5), which allows you to lock the Intuition XG's system clock to an external timecode. The Time Code card reads Longitudinal Time Code (LTC) from the signal present at the BNC connector.

9. **Optional: Connect the Intuition XG's GPI card's connector to an external control unit that uses GPI to control the Intuition XG.**

   The GPI Card is a hardware option on the Intuition XG, which allows for control of the Intuition XG via GPI triggers. The card provides for up to 8 optically isolated GPI inputs and 8 reed relay GPI outputs (see page 1-5).

4 QUICK START INSTRUCTIONS

This chapter provides you with instructions for performing the initial setup tasks to get the a newly installed Intuition XG device up and running. The procedure concludes by verifying the installation by previewing the playout of an asset in Intuition XG's Live Window and a broadcast monitor.

The following table summarizes the tasks that you must perform to quickly start up a factory-configured Intuition XG device.

Step #	Task description
1	**Start up the Intuition XG device (page 4-2)** • Plug the DVI monitor's power cable into a power socket and power it on • Plug the Intuition XG's power supply cable(s) into a power socket • Power on the Intuition XG unit
2	**Assign a new IP Address for the Intuition XG device (page 4-4)**
3	**Verify the installation by previewing the playout of an asset (page 4-5)** • Verify the Intuition XG's Output Resolution setting • Enable the Intuition XG's Live Window • In Xplay, add an asset to a playlist and verify that it plays out properly • On a dual channel Intuition XG, repeat the above steps for channel B
4	**Complete the quick start procedure (page 4-8)** • Disable the Intuition XG's Live Windows • Disconnect the keyboard, mouse and DVI monitor

Starting the Intuition XG

Once the Intuition XG is properly racked and cabled, you can make the power connections and you can perform the first-time start up of the Intuition XG unit.

1. Plug the monitor's power cable into a power socket and power it on.
2. Plug the Intuition XG's power supply cable(s) into a power socket.
3. Power on the Intuition XG unit by pressing the **POWER** button on the unit's front panel.

Figure 4-1 demonstrates that upon startup, the Intuition XG automatically displays the desktop applications on the monitor.

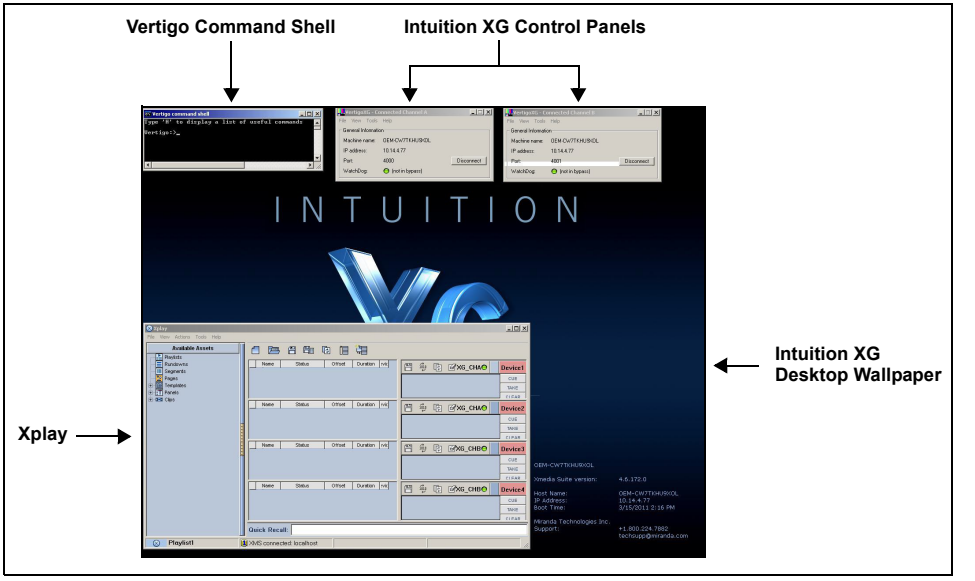


Figure 4-1. The Intuition XG's desktop applications

The following table provides briefly introduces each of the Intuition XG's desktop applications. The **Intuition XG Configuration Guide** provides further details regarding these applications.

Intuition XG desktop wallpaper	The Intuition XG desktop wallpaper features the Intuition XG logo, as well as identification information related to the specific Intuition XG device.
Intuition XG Control Panel(s)	Dual channel Intuition XG units (XG-Dual-e) will display two (2) Control Panels (Channel A & Channel B), while on single channel Intuition XG units (XG-e and XG-3U-e) will display only one. The Control Panel is a simple user interface that allows you to quickly reference general information about the Intuition XG device, as well as perform basic tasks for operating the Intuition XG like, loading a scene and launching the XG Dashboard application.

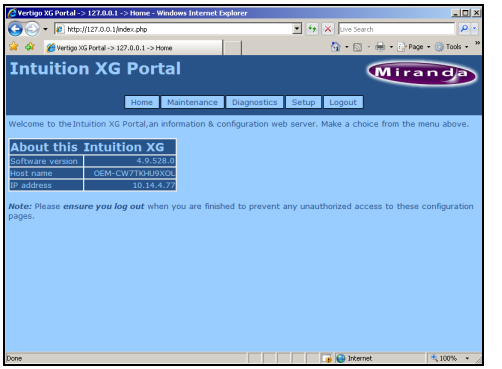
Xplay	Xplay is the playout control application that the master control system or device uses to control the playout of video and graphics on the Intuition XG device. Whether the Intuition XG is a single or dual channel model, only one instance of Xplay is used to control the Intuition XG device's output.
Vertigo Command Shell	The Vertigo Command Shell window allows you to perform some basic command tasks like opening Windows Explorer and shutdown/reboot the Intuition XG device.

Assigning a new IP address to the Intuition XG device

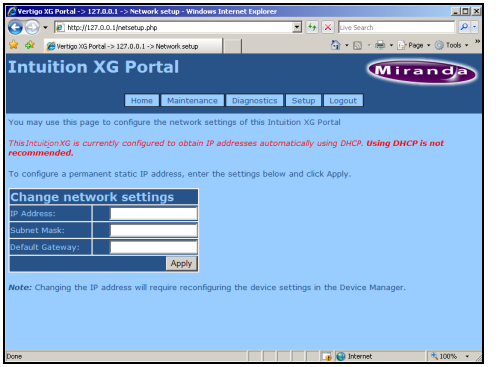
Factory configured Intuition XG units are shipped with a dynamic IP address. Using DHCP is not recommend, so you must assign a new static IP Address to the Intuition XG device.

To change the Intuition XG's current dynamic IP address to a static IP address:

1. In the Vertigo Command Shell, type `ipconfig` and take note of the current IP configuration.
2. Again in the Vertigo Command Shell, type `control` to open the **MICROSOFT CONTROL PANEL**.
3. In the Microsoft Control Panel's address bar, type `127.0.0.1` and press **RETURN**.
   The **INTUITION XG PORTAL'S** log in page appears.
4. Type `vertigo` into the Password field and click the **LOG IN** button.
   The **INTUITION XG PORTAL** web interface appears.



5. Select the **SETUP>NETWORK SETUP** command to display the **NETWORK SETUP** page.


Vertigo XG Portal -> 127.0.0.1 -> Network setup - Windows Internet Explorer
http://127.0.0.1/netsetup.php
Intuition XG Portal
Miranda
Home
Maintenance
Diagnostics
Setup
Logout
You may use this page to configure the network settings of this Intuition XG Portal
This Intuition XG is currently configured to obtain IP addresses automatically using DHCP. Using DHCP is not recommended.
To configure a permanent static IP address, enter the settings below and click Apply.
Change network settings
IP Address:
Subnet Mask:
Default Gateway:
Apply
Note: Changing the IP address will require reconfiguring the device settings in the Device Manager.
Done
Internet
100%

6. Change the **IP ADDRESS**, **SUBNET MASK**, and **DEFAULT GATEWAY** values by typing the new values in the corresponding text box.
7. Click the **APPLY** button.
   A window appears asking you to confirm that you want to change the IP Address.
8. Click **OK** to restart the Intuition XG unit and apply the new IP Address.

Verifying the installation and setup by previewing the playout

To verify that the Intuition XG is properly connected and operating, we recommend that you use the local copy of Xplay to load and playout an asset in the Live window and broadcast monitor associated with the Intuition XG's Channel A. For dual channel Intuition XG devices, we recommend performing the same verification tasks on Channel B.

The following sections provide instructions for verifying the installation and setup of the Intuition XG:

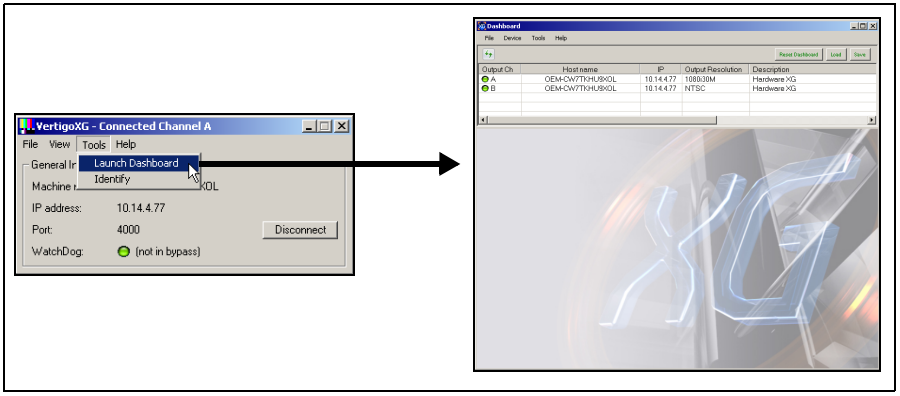
1. "Verify the Intuition XG's Output Resolution" on page 4-5
2. "Enable the Intuition XG's Live window" on page 4-6
3. "Use Xplay to playout a graphic" on page 4-7

Verify the Intuition XG's Output Resolution

Each of the Intuition XG's output channels (Channel A and Channel B) have an Output Resolution setting on their respective Dashboard, which determines the format of the Intuition XG's output signal.

To verify (and change) a Intuition XG's output channel resolution:

1. In the Intuition XG's Control Panel for Channel A, select the **TOOLS>LAUNCH DASHBOARD** menu command.



2. **Select the device's channel from the Device List.**

   If the device is not listed in Dashboard's Device List, perform a device discovery (see the **Intuition XG Configuration Guide** for instructions).

3. Verify the **OUTPUT RESOLUTION** setting. If the setting represents your desired output resolution, continue to the next task.

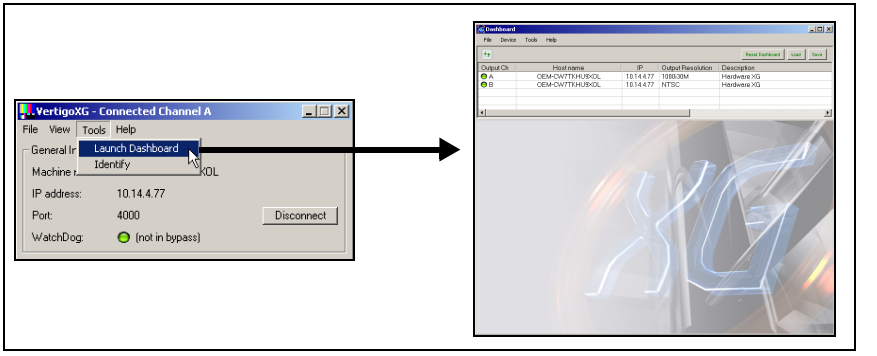
   If the Output Resolution setting is not what you desire, then select a different resolution from the drop-down list and click the **APPLY CHANGES** button. When prompted, click **YES** to apply the changes. Click **YES** again to restart the device, which applies the new setting.

Enable the Intuition XG's Live window

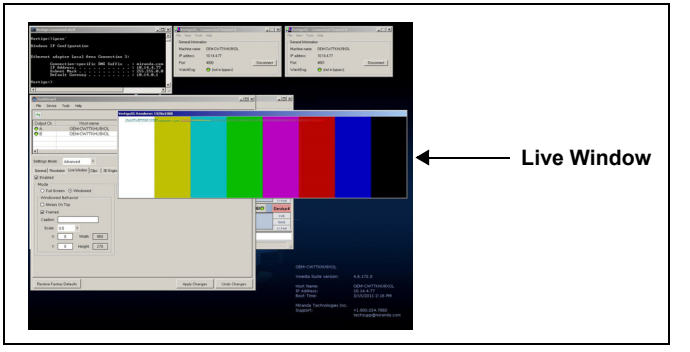
For installation and troubleshooting purposes, the Intuition XG is equipped with a preview window called the Live Window. The Live Window allows you to display a representation of the output channel's playout directly on the Intuition XG's desktop.

To enable the device channel's Live Window:

1. If Channel A's Dashboard is not already open, select the **TOOLS>LAUNCH DASHBOARD** menu command in the Intuition XG's Control Panel for Channel A. Then, select the device's channel from the Device List.



2. Select **ADVANCED** from the **Settings Mode** drop-down list.
3. When promted, click **YES** to switch to advance mode.
4. Select the **LIVE WINDOW** tab and check the **ENABLED** box.
5. Click the **APPLY CHANGES** button. When prompted, click **YES** to apply the changes.
6. When prompted, click **YES** to perform a restart of the Intuition XG device.
   Once the device has restarted, the Live Window will appear on the Intuition XG's desktop.



☑ NOTE

It is normal that the Live window is appears as double the expected width, since individual fields are being displayed on a progressive PC output.

Use Xplay to playout a graphic

To verify that the Intuition XG is properly connected and playing out, the following procedures has you add a template asset to the playlist, then cue and take the asset so that it plays out in the Live window, as well as the broadcast monitor.

☑ NOTE

These instructions describe playing out on the Intuition XG's primary output (channel A). To verify a dual channel Intuition XG's second output (channel B), you must perform the same setup and playout instructions (page 4-5), but using the Dashboard, Live Window, broadcast monitor and Xplay device viewers associated with Channel B.

To verify the Intuition XG's playout:

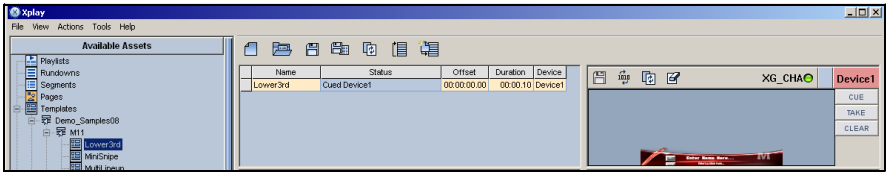
1. In Xplay, verify that the **DEVICE 1** viewer's LED is green, indicating that it is actively connected to the Intuition XG's channel A.

   If the LED is red, double-click on the LED to connect to the device. If it still does not change to green, verify that the device is properly configured in Xplay's Device Manager. See the **Intuition XG Configuration Guide** for more information.
2. Verify that the **DEVICE 1** Keyer is turned on (pink).

   If the **DEVICE 1** Keyer is turned off (grey), right-click on the **DEVICE 1** Keyer and select the **TURN KEYER ON** command.
3. Enable Xplay's **VERIFY PLAYLIST** setting by selecting the **TOOLS>SETTINGS** menu command. Select **PLAYOUT** and then verify that the **VERIFY PLAYLIST** setting is enabled. Click **OK**.
4. In the Asset Browser, select the **TEMPLATES>DEMO_SAMPLES08>M11**.
5. Double-click on any of the templates listed in the M11 category.

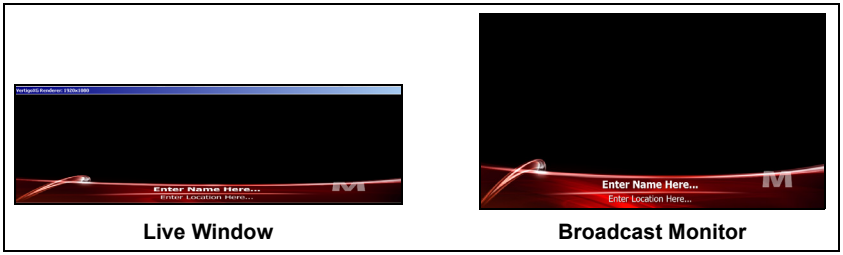
   The template is added to the playlist.
6. Select the template in the playlist and click the **CUE** button in the Device Viewer.

   The template is displayed in the Device Viewer.



7. Click the **TAKE** button.

   The graphic is played out on both the Intuition XG's Live Window and the broadcast monitor.



Live Window **Broadcast Monitor**

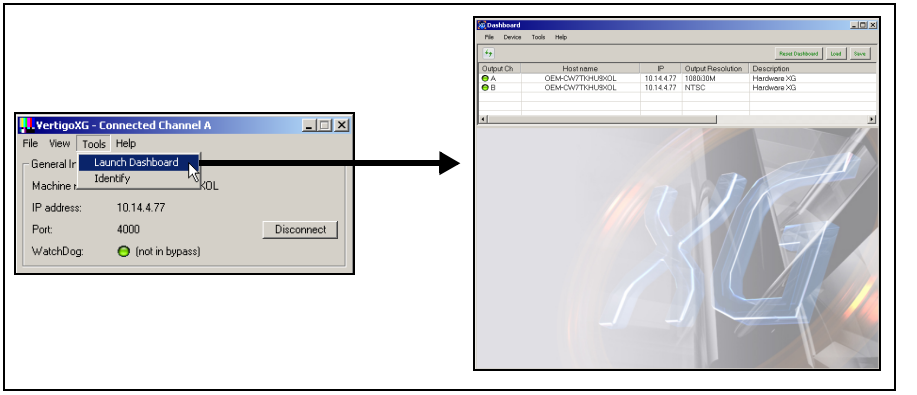
Completing the quick start procedure

With the Intuition XG now capable of playing out graphics, we recommend that you disable the Live Windows as they put an unnecessary burden on the system's resources during on-air playout.

Since the mouse, keyboard and DVI monitor are only used during the setup and configuration procedures, you can also disconnect these peripherals from the Intuition XG unit.

To disable the Live Window:

1. If Channel A's Dashboard is not already open, select the **TOOLS>LAUNCH DASHBOARD** menu command in the Intuition XG's Control Panel for Channel A. Then, select the device's channel from the Device List.



2. Select **ADVANCED** from the **Settings Mode** drop-down list.
3. When promted, click **YES** to switch to advance mode.
4. Select the **LIVE WINDOW** tab and clear (disable) the **ENABLED** box.
5. Click the **APPLY CHANGES** button. When prompted, click **YES** to apply the changes.
6. When prompted, click **YES** to perform a restart of the Intuition XG device.
7. On dual channel Intuition XG devices, repeat these steps for Output Channel B.

5 NEED FURTHER ASSISTANCE?

Technical Support

For technical assistance, please contact the Miranda Technical support centre nearest you:

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